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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Fumiaki KAMIJO

Title: SOUND VOLUME ADJUSTMENT
SYSTEM IN PERSONAL
COMPUTER AND SOUND
VOLUME ADJUSTMENT
METHOD THEREOF

Appl. No.: 09/625,510

Filing Date: 07/25/2000

Examiner: L. A. Grier

Art Unit: 2644

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BRIEF OF APPELLANTS

Commissioner of Patents and Trademarks
Washington, D.C., 20231

Sir:

This is an appeal from the final rejection of the Examiner dated January 29, 2003, rejecting Claims 1-23. The Brief, filed in triplicate, is accompanied by the requisite fee set forth in 37 CFR 1.17(c).

Real Party in Interest (37 C.F.R. 1.192(c)(1))

The real party in interest is NEC Corporation.

Related Appeals and Interferences (37 C.F.R. 1.192(c)(2))

There are no related appeals or interferences.

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Status of Claims (37 C.F.R. 1.192(c)(3))

Applicant filed the present application on July 25, 2000 with twenty-three claims of which three were independent claims (Claims 1, 9 and 17).

The Examiner rejected Claims 1-23 in the Office Action dated September 5, 2002.

Applicant amended Claims 1-23 in the response dated November 15, 2002.

In the Office Action dated January 29, 2003, which was a final rejection, the Examiner, stating that Applicant's arguments had been considered but were moot in view of the new grounds of rejection, maintained the rejection of Claims 1-23, even though no new grounds of rejection were actually made by the Examiner.

The status of the claims as set out in the Office Action dated January 29, 2003 was and is as follows: Claims 1-23 are rejected.

Thus, Claims 1-23 are the subject of this appeal.

Status of Amendments (37 C.F.R. 1.192(c)(4))

No amendments have been submitted subsequent to the final rejection.

Summary of the Invention (37 C.F.R. 1.192(c)(5))

Embodiments of Applicant's invention are directed to systems and methods for adjusting sound volumes for software applications in a personal computer (page 4, lines 9-16). Generally, sound volume settings for each particular software application used on the personal computer may be adjusted and stored in memory. When a particular software application is put into use on the personal computer, the sound volume settings are transferred from memory to the operating system (page 13, line 26 to page 14, line 15). Embodiments of the present invention allow sound volume settings for a particular software application to be customized.

Issues (37 C.F.R. 1.192(c)(6))

1. Rejection of Claims 1-23 under 35 U.S.C. §103(a)
 - a. The Examiner rejected Claims 1, 9 and 17 under 35 U.S.C. §103(a) as being unpatentable over Applicant's admitted prior art in view of Odlen, U.S. Patent No. 4,292,467. In addition, the Examiner rejected Claims 2-8, 10-16 and 18-23, which depend either directly or indirectly from Claims 1, 9 and 17, respectively, under 35 U.S.C.

§ 103(a) as being unpatentable over various combinations of Applicant's admitted prior art, Odlen and Hetherington, U.S. Patent No. 5,289,546.

With respect to independent Claims 1, 9 and 17, it is the Examiner's position that Applicant's admitted prior art discloses a personal computer including an operating system with means of adjusting the sound volume of the computer system for multiple audio applications. Furthermore, the Examiner asserts that a memory with software applications and sound volume adjustment control means are well-known in the art and applies Odlen in support thereof. The Examiner states that Odlen discloses memory registers and other memory for storing information and function levels for various radio receiver functions, including volume and other audio effects. The information is stored based on whether the audio source is AM radio, FM radio, a tape player or a phonograph.

The Examiner also states that Odlen discloses a control means, which may include a microprocessor or a CPU, for accessing the information from memory and adjusting volume levels based on the selected audio source. The Examiner asserts that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of Applicant's admitted prior art by implementing the techniques taught by Odlen for the purpose of alleviating the inconvenience of having to change the volume each time a different audio device or application is used. Applicant respectfully traverses this rejection.

b. The Examiner indicated in the Office Action of January 29, 2003, which was a final rejection, that Applicant's arguments had been considered but were moot in view of the new grounds of rejection. However, no new grounds of rejection were actually made by the Examiner. The Examiner, in maintaining the rejection of Claims 1-23, reiterated the same arguments made in the Office Action of September 5, 2002. Applicant respectfully traverses this rejection.

Grouping of Claims (37 C.F.R. 1.192(c)(7))

As to the rejections applied against Claims 1-23 under 35 U.S.C. §103, it is Applicant's position that Claims 1-23 stand or fall together.

Argument (37 C.F.R. 1.192(c)(8))

1a. The Examiner failed to establish a *prima facie* case of obviousness in his initial rejection of Claims 1, 9 and 17 under 35 U.S.C. §103.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d at 1438 (Fed. Cir. 1991).

Applicant's Claim 1 recites a sound volume adjustment system for a personal computer comprising: 1) a memory in which plural sound volume setting information for a plurality of software applications is stored; and 2) sound volume adjustment control means for adjusting, based on the sound volume setting information, sound volume data for each application of the plurality of software applications and transferring adjusted sound volume data to an operating system. These limitations are not disclosed or suggested, individually or in combination, in Applicant's admitted prior art or in Odlen. Moreover, even assuming, *arguendo*, that the limitations of Claim 1 are disclosed when combining Applicant's admitted prior art with Odlen, there would be no motivation or suggestion to combine these references.

Applicant's admitted prior art includes a plurality of software applications and an operating system implemented on a personal computer. Adjustment of the volume level of sounds associated with the software applications or the operating system is performed at the master volume level. In other words, any adjustment of the volume level of sounds associated with one of the software applications affects the volume level of sounds associated with the other software applications and the operating system as well. Similarly, any adjustment of the volume level of sounds associated with the operating

system, such as warnings or reminders, for example, affect the volume level of the sounds associated with the software applications. (Applicant's disclosure, page 1 line 16 to page 2, line 17; figure 3.)

As an example of Applicant's admitted prior art, many personal computer users using the Windows operating system are familiar with the "speaker" icon in the bottom, right-hand corner of the their computer screens. The "speaker" icon is implemented specifically for the purpose of master volume adjustments. After clicking on the "speaker" icon, a slide bar appears allowing the user to adjust the volume of the computer's speaker. Thus, the user may adjust the volume (or mute the volume altogether) of a software application by adjusting the volume of the personal computer.

The volume level of any other sounds emanating from the computer's speaker, however, whether associated with the Windows operating system or another software application, will be likewise affected. Thus, the "speaker" icon is a quick link to a master volume adjustment mechanism that controls the volume of all sounds emanating from the computer's speaker. This scheme is well-known in the art.

Odlen is directed toward an audio receiver having a variety of functions controlled electronically, thus eliminating mechanical adjustment mechanisms. For example, in Odlen, volume and tone adjustments are made by opening and closing solid state switches. The switches themselves are opened and closed based on the state of memory registers. The contents of the memory registers are determined by user adjustment. For example, if a user wants to set a volume level, the user may turn a rotary knob which increments or decrements a counter. The value of the counter is then stored in the memory register which, in turn, opens and closes solid state switches in a manner corresponding to the desired volume set by the user. The operations may be implemented using a controller, such as a microprocessor, for example. (Odlen, column 3, line 54 to column 4, line 27; figure 2.)

In contrast, Applicant's Claim 1 recites a sound volume adjustment system for a personal computer comprising: 1) memory in which plural sound volume setting information for a plurality of software applications is stored, and 2) sound volume adjustment control means for adjusting, based on the sound volume setting information,

sound volume data for each application of the plurality of software applications based on the sound volume setting information and for transferring adjusted sound volume data to an operating system. Claims 9 and 17 recite similar language.

The first element of Claim 1 is a "memory in which plural sound volume setting information for a plurality of software applications is stored." Neither Applicant's admitted prior art nor Odlen disclose or suggest memory that stores application software sound volume level information. Applicant's admitted prior includes a master volume setting at the operating system. There is no provision in Applicant's admitted prior art for the adjustment of volume levels for a plurality of software applications at the application level. Odlen does not disclose or suggest software applications at all (nor were they likely even contemplated in an application filed in 1978).

The second element of Claim 1 is a "sound volume adjustment control means for adjusting, based on the sound volume setting information, sound volume data for each application of the plurality of software applications based on the sound volume setting information and for transferring adjusted sound volume data to an operating system." Neither Applicant's admitted prior art nor Odlen disclose or suggest sound volume adjustment control means that adjusts sound volume data for a plurality of applications and transfers that data to an operating system. As stated previously, Applicant's admitted prior includes a master volume setting at the operating system level. There is no provision in Applicant's admitted prior art for the adjustment of volume levels for a plurality of software applications at the application level. In addition, Odlen does not adjust application software sound volume data, nor does he transfer such data to an operating system. There is no application software or operating system suggested or disclosed in Odlen and, as stated above, it is unlikely, given the time of the filing and the nature of the invention, that such elements were even contemplated by Odlen.

Accordingly, there is no memory in which plural sound volume setting information for a plurality of software applications is stored, nor is there sound volume adjustment control means for adjusting, based on the sound volume setting information, sound volume data for each application of the plurality of software applications based on the sound volume setting information and for transferring adjusted sound volume data to

an operating system as claimed by Applicant in either Applicant's admitted prior art or in Odlen. Therefore, the prior art references do not teach or suggest all the claim limitations of Claim 1. All the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 18 USPQ 580 (CCPA 1974). Thus, the third element necessary for the establishment of a *prima facie* case of obviousness has not been met.

Moreover, even assuming, *arguendo*, that all of the claim limitations of Claim 1 are taught in the prior art references, there is no motivation or suggestion to combine the Odlen reference with Applicant's admitted prior art. Odlen is directed to an audio receiver while Applicant's admitted prior art is directed to a personal computer. The nature and function of these devices are different. Odlen teaches the elimination of mechanical parts via electronic control of audio receiver functions. Applicant's admitted prior art teaches adjustment of an operating system's master volume control for the adjustment of volume levels for software applications.

The preamble of Claim 1 recites a sound volume adjustment system for a *personal computer*. At the time the Odlen application was filed, October 4, 1978, personal computers were in their nascency. The Apple II had just been introduced in 1977 and it would still be three years before the ubiquitous IBM PC would be introduced in 1981. Odlen does not disclose or even suggest a personal computer as that term is known in the art at the time of Applicant's filing, July 25, 2000.

Also, software applications of the type contemplated by Applicant at the time of filing on July 25, 2000 are sophisticated instructions implemented by a personal computer to effect a particular result on a computer screen or a particular output from the computer, including, without limitation, a sound emanating from the computer's speaker or speakers. Software applications of this type are not even remotely related to the audio receiver disclosed in the Odlen patent, the application for which was filed over twenty years prior to the filing of Applicant's application. Indeed, application software for personal computers was virtually non-existent when the Odlen application was filed.

In addition, there is no operating system suggested or disclosed in Odlen. Indeed, Odlen is, at best, a microprocessor-based system having rudimentary control algorithms implemented in ROM. Nothing in Odlen even comes close to resembling an

"operating system" as that term is used currently in the art. For example, one of ordinary skill in the art today would not contemplate implementing Microsoft Windows, Mac Os or Linux (or even DOS, for that matter) in a twenty-year old audio receiver. The notion of an operating system as it is used in Claims 1, 9 and 17 is not even accessible to the audio receiver disclosed in Odlen.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teaching would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination or other modification. *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). The two references cited by the Examiner are unrelated and are insufficient for one of ordinary skill in the art to make the proposed combination. Therefore, there is no motivation or suggestion to combine the references. Thus, the first element necessary for the establishment of a *prima facie* case of obviousness has not been met.

Accordingly, the Examiner has not made out a *prima facie* case of obviousness and Applicant's Claims 1, 9 and 17 are patentable over Applicant's admitted prior art in view of Odlen. Moreover, Claims 2-8, 10-16 and 18-23, which depend either directly or indirectly from Claims 1, 9 and 17, respectively, are patentable over Applicant's admitted prior art for at least the same reasons as Claims 1, 9 and 17. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d at 1596 (Fed.Cir. 1988). Applicant respectfully requests that the rejection of Claims 1-23 be reversed.

1b. The Examiner has failed to establish a *prima facie* case of obviousness in his new grounds of rejection of Claims 1-23 under 35 U.S.C. §103.

The Examiner indicated that Applicant's arguments have been considered but are moot in view of the new grounds of rejection. However, the Examiner failed to provide any new grounds of rejection. The Examiner merely reiterated the old grounds of rejection which, as discussed above, fail to establish a *prima facie* case of obviousness.

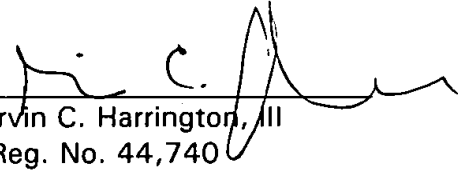
Thus, not only has the Examiner failed to establish a *prima facie* case of obviousness in his new grounds of rejection, the Examiner has failed to establish any grounds for rejection by failing to cite new art. The prior art must be considered in determining the ultimate question of patentability. *In re Dillon*, 991 F.2d 688, 693 (Fed.Cir. 1990). Because the Examiner attempted to cite new art but didn't, Applicant is left to assume that his arguments rebutting the initial *prima facie* case of obviousness were persuasive. Accordingly, Applicant respectfully requests that the rejection of Claims 1-23 be reversed.

In view of the foregoing, favorable reconsideration of the application is respectfully requested. It is submitted that the claims of record are in condition for allowance.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to Deposit Account No. 50-0872 and, in particular, if this appeal is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 C.F.R. 1.136 (A) requesting an extension of time of the number of months necessary to make this response timely filed. The petition fee due in connection therewith may be charged to deposit account No. 50-0872.

Respectfully submitted,

June 27, 2003


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Appendix (37 C.F.R. 1.192(c)(9))

The claims involved in this appeal are as follows:

1. A sound volume adjustment system for a personal computer, comprising:
a memory in which plural sound volume setting information for a plurality of software applications is stored, and
sound volume adjustment control means for adjusting, based on said sound volume setting information, sound volume data for each application of the plurality of software applications based on said sound volume setting information and transferring adjusted sound volume data to an operating system.
2. The sound volume adjustment system for a personal computer according to claim 1, wherein
in said memory a sound volume adjustment coefficient is stored as said sound volume setting information, and
said sound volume adjustment control means multiplies said sound volume data by said sound volume adjustment coefficient to generate said adjusted sound volume data.
3. The sound volume adjustment system for a personal computer according to claim 1, wherein
a sound volume level of said adjusted sound volume data is set to be equivalent to that of a sound volume of a system sound (error sound) generated by said operating system.
4. The sound volume adjustment system for a personal computer according to claim 1, wherein

in said memory a sound volume adjustment coefficient is stored as said sound volume setting information,

said sound volume adjustment control means multiplies said sound volume data by said sound volume adjustment coefficient to generate said adjusted sound volume data, and

a sound volume level of said adjusted sound volume data is set to be equivalent to that of a sound volume of a system sound (error sound) generated by said operating system.

5. The sound volume adjustment system for a personal computer according to claim 1, wherein

when data is transferred from a software application for which sound volume setting information is yet to be stored,

said sound volume adjustment control means displays sound volume adjustment function indications on an operation screen to store, in said memory, sound volume setting information based on a sound volume set through said sound volume adjustment function indications corresponding to the software application.

6. The sound volume adjustment system for a personal computer according to claim 1, wherein

in said memory a sound volume adjustment coefficient is stored as said sound volume setting information,

said sound volume adjustment control means multiplies said sound volume data by said sound volume adjustment coefficient to generate said adjusted sound volume data, and

when data is transferred from a software application for which sound volume setting information is yet to be stored,

said sound volume adjustment control means displays sound volume adjustment function indications on an operation screen to store, in said memory, sound

volume setting information based on a sound volume set through said sound volume adjustment function indications corresponding to the software application.

7. The sound volume adjustment system for a personal computer according to claim 1, wherein

a sound volume level of said adjusted sound volume data is set to be equivalent to that of a sound volume of a system sound (error sound) generated by said operating system, and

when data is transferred from a software application for which sound volume setting information is yet to be stored,

said sound volume adjustment control means displays sound volume adjustment function indications on an operation screen to store, in said memory, sound volume setting information based on a sound volume set through said sound volume adjustment function indications corresponding to the software application.

8. The sound volume adjustment system for a personal computer according to claim 1, wherein

in said memory a sound volume adjustment coefficient is stored as said sound volume setting information,

said sound volume adjustment control means multiplies said sound volume data by said sound volume adjustment coefficient to generate said adjusted sound volume data,

a sound volume level of said adjusted sound volume data is set to be equivalent to that of a sound volume of a system sound (error sound) generated by said operating system,

when data is transferred from a software application for which sound volume setting information is yet to be stored,

said sound volume adjustment control means displays sound volume adjustment function indications on an operation screen to store, in said memory, sound

volume setting information based on a sound volume set through said sound volume adjustment function indications corresponding to the software application.

9. A sound volume adjustment method for a personal computer, comprising the steps of:

storing sound volume setting information for a plurality of software applications so that plural sound information is stored for said plurality of software applications,

adjusting, based on said sound volume setting information, sound volume data for each of the plurality of software applications based on said sound volume setting information; and

transferring adjusted sound volume data to an operating system.

10. The sound volume adjustment method for a personal computer according to claim 9, wherein

a sound volume adjustment coefficient is stored as said sound volume setting information, and

said sound volume data is multiplied by said sound volume adjustment coefficient to generate said adjusted sound volume data.

11. The sound volume adjustment method for a personal computer according to claim 9, wherein

a sound volume level of said adjusted sound volume data is set to be equivalent to that of a sound volume of a system sound (error sound) generated by said operating system.

12. The sound volume adjustment method for a personal computer according to claim 9, wherein

a sound volume adjustment coefficient is stored as said sound volume setting information,

said sound volume data is multiplied by said sound volume adjustment coefficient to generate said adjusted sound volume data, and

a sound volume level of said adjusted sound volume data is set to be equivalent to that of a sound volume of a system sound (error sound) generated by said operating system.

13. The sound volume adjustment method for a personal computer according to claim 9, wherein

when data is transferred from a software application for which sound volume setting information is yet to be stored, sound volume setting information based on a set sound volume is stored in said memory corresponding to the software application.

14. The sound volume adjustment method for a personal computer according to claim 9, wherein

a sound volume adjustment coefficient is stored as said sound volume setting information,

said sound volume data is multiplied by said sound volume adjustment coefficient to generate said adjusted sound volume data, and

when data is transferred from a software application for which sound volume setting information is yet to be stored, sound volume setting information based on a set sound volume is stored in said memory corresponding to the software application.

15. The sound volume adjustment method for a personal computer according to claim 9, wherein

a sound volume level of said adjusted sound volume data is set to be equivalent to that of a sound volume of a system sound (error sound) generated by said operating system, and

when data is transferred from a software application for which sound volume setting information is yet to be stored, sound volume setting information based on a set sound volume is stored in said memory corresponding to the software application.

16. The sound volume adjustment method for a personal computer according to claim 9, wherein

a sound volume adjustment coefficient is stored as said sound volume setting information,

said sound volume data is multiplied by said sound volume adjustment coefficient to generate said adjusted sound volume data,

a sound volume level of said adjusted sound volume data is set to be equivalent to that of a sound volume of a system sound (error sound) generated by said operating system, and

when data is transferred from a software application for which sound volume setting information is yet to be stored, sound volume setting information based on a set sound volume is stored in said memory corresponding to the software application.

17. A computer readable memory storing a sound volume adjustment program for controlling a personal computer to conduct sound volume adjustment,

said sound volume adjustment program comprising the steps of:

storing sound volume setting information for a plurality of software applications so that plural sound information is stored for said plurality of software applications,

adjusting, based on said sound volume setting information, sound volume data for each of the plurality of software applications based on said sound volume setting information, and

transferring adjusted sound volume data to an operating system.

18. The computer readable memory storing a sound volume adjustment program for controlling a personal computer to conduct sound volume adjustment according to claim 17, wherein

a sound volume adjustment coefficient is stored as said sound volume setting information, and

said sound volume data is multiplied by said sound volume adjustment coefficient to generate said adjusted sound volume data.

19. The computer readable memory storing a sound volume adjustment program for controlling a personal computer to conduct sound volume adjustment according to claim 17, wherein

a sound volume level of said adjusted sound volume data is set to be equivalent to that of a sound volume of a system sound (error sound) generated by said operating system.

20. The computer readable memory storing a sound volume adjustment program for controlling a personal computer to conduct sound volume adjustment according to claim 17, wherein

a sound volume adjustment coefficient is stored as said sound volume setting information,

said sound volume data is multiplied by said sound volume adjustment coefficient to generate said adjusted sound volume data, and

a sound volume level of said adjusted sound volume data is set to be equivalent to that of a sound volume of a system sound (error sound) generated by said operating system.

21. The computer readable memory storing a sound volume adjustment program for controlling a personal computer to conduct sound volume adjustment according to claim 17, wherein

when data is transferred from a software application for which sound volume setting information is yet to be stored,

sound volume setting information based on a set sound volume is stored in said memory corresponding to the software application.

22. The computer readable memory storing a sound volume adjustment program for controlling a personal computer to conduct sound volume adjustment according to claim 17, wherein

a sound volume adjustment coefficient is stored as said sound volume setting information,

said sound volume data is multiplied by said sound volume adjustment coefficient to generate said adjusted sound volume data, and

when data is transferred from a software application for which sound volume setting information is yet to be stored,

sound volume setting information based on a set sound volume is stored in said memory corresponding to the software application.

23. The computer readable memory storing a sound volume adjustment program for controlling a personal computer to conduct sound volume adjustment according to claim 17, wherein

a sound volume adjustment coefficient is stored as said sound volume setting information,

said sound volume data is multiplied by said sound volume adjustment coefficient to generate adjusted said sound volume data,

a sound volume level of said adjusted sound volume data is set to be equivalent to that of a sound volume of a system sound (error sound) generated by said operating system, and

when data is transferred from a software application for which sound volume setting information is yet to be stored,

sound volume setting information based on a set sound volume is stored in said memory corresponding to the software application.